**Palestine TechnicalUniversity-Kadoorie**

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| **Student's Name: …………………**  **Student's Number: ……………...**  **Due date: 28/8/2024** | **img0002**  **Homework 2**  **Summer Semester2023/2024** | **Course's Name: General Chemistry I**  **Course's Number: 15050101**  **Number of pages:2**  **Number of questions : 6** |

1. Determine whether the following compounds are soluble or insoluble in water.

NaBr :

Ba(OH)2 :

calcium carbonate :

1. Write complete ionic and net ionic equations for each of the following molecular equations.
2. 2HNO3(aq) + Mg(OH)2(s) → 2H2O(l) \_ Mg(NO3)2(aq)

complete ionic equ:

net ionic equ:

1. Pb(NO3)2(aq) + Na2SO4(aq) → PbSO4(s) \_ 2NaNO3(aq)

complete ionic Equ:

net ionic Equ:

1. Consider the following reaction

HCHO2(l ) → H2O(l ) + CO(g)

If 3.85 L of CO was collected over water at 25°C and 689 mmHg, how many grams of HCHO2 were consumed? (the vapor pressure of water at 25oC is 23.8 mmHg)

1. 0.562 g of graphite is placed in a calorimeter with excess oxygen at 25.00 °C and 1 atm pressure. The graphite is ignited and burns completely to form CO2 as shown below:

C (graphite) + O2 → CO2 (g)

After the completion of the reaction, the calorimeter temperature rises to 25.90 °C. The heat capacity of the calorimeter is found to be 20.7 kJ/°C. Based on this information calculate the heat of the reaction.

1. Calculate the standard enthalpy of formation for ethylene (C2H2) from the standard enthalpies of reaction shown below:

2 C2H2 (g) + 5 O2 (g) → 4 CO2 (g) + 2 H2O (g) ΔH° = –2512 kJ

ΔHf ° (kJ/mol) ?? –393.5 –242

GOOD LUCK